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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,024	03/16/2001	Holger Eggers	Mo-6053/WW-5060	5684

7590 06/28/2002
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EXAMINER

RIBAR, TRAVIS B

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 06/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,024

Applicant(s)

EGGERS ET AL.

Examiner

Travis B Ribar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-11 and 13-15, drawn to a thermoformable film, classified in class 428, subclass 474.4.
 - II. Claim 12, drawn to a process for producing a flat thermoformable film, classified in class 264, subclass 348.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the thermoformable film may be made by a materially different process, such as coating a non-stick surface with the polyamide composition and then cooling the composition to form a free-standing nucleated polyamide film.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. William Gerstenzang on June 21 a provisional election was made with traverse to prosecute the invention of the

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thermoformable film, claims 1-11 and 13-15. Affirmation of this election must be made by applicant in replying to this Office action. Claim 12 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 13 and 14 provide for the use of a film, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 13 and 14 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process

claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 11, 14, and 15 are rejected under 35 U.S.C. 103(a) as being anticipated by Khanna et al. in view of Mizutani et al.

Khanna et al. discloses a polyamide polymer (column 7, lines 14-33) that is used as a single or multi-layer film (column 11, lines 42-59). The polyamide polymer includes a small amount (column 9, lines 9-16) of silica nucleating agent (column 8, line 67). It is envisioned that the polyamide layer comprises polyamide 6, meeting that part of claim 1.

The amount of nucleating agent falls in the range specified by the applicant in claim 3 and it is well known that a nucleating agent is used so that polymer crystals form from the surface of the nucleating agent upon cooling of the polymer (claim 2). The nucleated polyamide films may be made into articles or used in the packaging of foodstuffs (column 11, lines 41-59, meeting claims 15 and 14, respectively).

Khanna et al. does not, however, disclose the cooling rate that the applicant specifies in claim 2, that the nucleating agents have high aspect ratios (claim 1), or the distance between spherulites in claims 1 and 4. These aspects of the invention are found in Mizutani et al.

Mizutani et al. discloses that layered silica, montmorillonite, which has the aspect ratio that the applicant claims in claim 1, is a suitable nucleating agent for creating crystals in polymers, particularly in the amount specified in claim 3 (column 12, lines 49). It is well known in the art that in order to nucleate a polymer one must cool it from above its melting temperature to below its glass transition temperature. Mizutani et al. also discloses that the cooling rate the applicant cites in claim 2 is known in the art to form crystals in a polymer (column 17, lines 22-23).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use montmorillonite as the nucleating agent and 10°C per minute as the cooling rate in the invention shown in Khanna et al. It further would have been obvious to produce a thin flat film using the composition shown in Khanna et al. The motivation for doing so would be to create a suitably crystallized polymer that would be useful in food packaging applications. Therefore it would have been obvious to combine Mizutani et al. with Khanna et al. to obtain the invention as specified in claims 1-4, 10, and 12-16.

The distance between spherulites, appearing in claims 1 and 4 of the present invention, are properties inherent to a given material. As such, any material that fulfills the applicant's material claims fits these property claims as well. The composition

taught by the combination of Khanna et al. and Mizutani et al., when cooled at the rate shown above, (which is the same rate the applicant claims) would inherently possess spherulites that are the same distance from each other as the distance that the applicant claims. Therefore, Khanna et al. in view of Mizutani et al. meets the material claims set forth by the applicant, as shown above, and anticipates these aspects of claims 1 and 4.

Finally, claim 11 is a product-by-process claim. In product-by-process claims, "once a product appearing to be substantially identical is found and a 35 U.S.C. 103 rejection made, the burden shifts to the applicant to show an unobvious difference." MPEP 2113. In the present application, the nucleated film formed by the combined knowledge in Khanna et al. and Mizutani et al. appears to form the same thermoformable film that the applicant claims. The applicant has not shown that the method by which the product is made causes the product to be patentably distinct from the product produced by the reference(s). This rejection under 35 U.S.C. 103 is therefore proper because the "patentability of a product does not depend on its method of production." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

11. Claims 5, 7-10, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh in view of the combined teachings of Khanna et al. and Mizutani et al.

Ramesh discloses a multilayer film structure useful for the packaging of foodstuffs (column 19, lines 22-31, meeting claims 14 and 15) that includes multiple

layers of polyamide and ethylene-vinyl alcohol (column 2, lines 38-53, meeting this part of claims 5 and 9). In the multilayer film, the outer layer is polyamide (column 3, lines 23-25 and column 15, line 47) and there may be a tie layer between the layers in order to improve adhesion between them (column 3, lines 33-38). In this respect, Ramesh meets these parts of claims 5 and 7. The film may include a heat-sealing layer on one outer surface of the film (column 19, line 3 and column 14, lines 54-55). In embodiments where the multilayer film includes a tie layer and other polymer layers (such as example 3 in the reference), it meets the restrictions of claims 8 and 10. The multilayer film is used on a form/fill/seal machine (column 19, lines 22-31, meeting claim 13).

Ramesh does not, however, teach the inclusion of nucleating agents in the polyamide layer, the aspect ratio of the nucleating agent, or the distance between the spherulites in the nucleated film. All of those aspects are taught through the combination of Khanna et al. and Mizutani et al., which are discussed above. Those references teach the use of a small amount of small nucleating agent and a specific cooling rate in order to create a film with improved crystalline, and therefore mechanical, properties. Therefore the substitution of the tougher polyamide film taught by the combination of Khanna et al. and Mizutani et al. for the outer polyamide layer in the multilayer film in Ramesh would be obvious to one skilled in the art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the polyamide film taught by the combination of Khanna et al. and Mizutani et al. as the outer layer in the multilayer film shown in Ramesh. The motivation

for doing so would be to provide a multilayer film with improved mechanical properties. Therefore it would have been obvious to combine Khanna et al. and Mizutani et al. with Ramesh to obtain the invention as specified in claims 5, 7-10, and 13-15.

12. Claims 7-8, 10, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frisk in view of the combined teachings of Khanna et al. and Mizutani et al.

Frisk discloses a multilayer polyamide film (column 2, line 51) used in food packaging (column 5, lines 46-49, meeting that aspect of claims 14 and 15) that includes a metal oxide layer as specified in claim 10 (column 1, lines 64-66). The exterior of the multilayer film is a polyamide (column 2, lines 41-57), reflecting claim 7 of the current application, and heat-sealing adhesive layers (column 4, lines 40-46) are also present in the multilayer film, meeting claim 8.

Frisk does not, however, teach the inclusion of nucleating agents in the polyamide layer, the aspect ratio of the nucleating agent, or the distance between the spherulites in the nucleated film. All of those aspects are taught through the combination of Khanna et al. and Mizutani et al., which are discussed above. Those references teach the use of a small amount of small nucleating agent and a specific cooling rate in order to create a film with improved crystalline, and therefore mechanical, properties. Therefore the substitution of the tougher polyamide film taught by the combination of Khanna et al. and Mizutani et al. for the outer polyamide layer in the multilayer film in Frisk would be obvious to one skilled in the art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the polyamide film taught by the combination of Khanna et al. and Mizutani et al. as the outer layer in the multilayer film shown in Frisk. The motivation for doing so would be to provide a multilayer film with improved mechanical properties. Therefore it would have been obvious to combine Khanna et al. and Mizutani et al. with Frisk to obtain the invention as specified in claims 7-8, 10, and 14-15.

13. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. in view of the combined teachings of Khanna et al. and Mizutani et al.

Harada et al. discloses a multilayer film that includes a layer of polyamide made from epsilon-caprolactam (column 3, lines 1-22). The amount of epsilon-caprolactam present in the polyamide includes the range the applicant claims in claim 6. The multilayer film also includes a layer of polyolefin (column 5, lines 38-63), meeting that aspect of claim 10.

Harada et al. does not, however, teach the inclusion of nucleating agents in the polyamide layer (though their use is implied in column 3, line 27), the aspect ratio of the nucleating agent, or the distance between the spherulites in the nucleated film. All of those aspects are taught through the combination of Khanna et al. and Mizutani et al., which are discussed above. Those references teach the use of a small amount of small nucleating agent and a specific cooling rate in order to create a film with improved crystalline, and therefore mechanical, properties. Therefore the substitution of the tougher polyamide film taught by the combination of Khanna et al. and Mizutani et al. for

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the outer polyamide layer in the multilayer film in Harada et al. would be obvious to one skilled in the art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the polyamide film taught by the combination of Khanna et al. and Mizutani et al. as the outer layer in the multilayer film shown in Harada et al. The motivation for doing so would be to provide a multilayer film with improved mechanical properties. Therefore it would have been obvious to combine Khanna et al. and Mizutani et al. with Harada et al. to obtain the invention as specified in claims 6 and 10.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis B Ribar whose telephone number is (703) 305-3140. The examiner can normally be reached on 8:30-5:00 Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

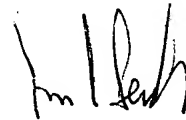
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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Travis B Ribar
Examiner
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TBR
June 24, 2002



James J. Seidleck
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